NAME _____ DATE _____ PERIOD _____

8-7

Skills Practice

Solving Quadratic Systems

Find the exact solution(s) of each system of equations.

1. $y = x - 2$
   $y = x^2 - 2$

2. $y = x + 3$
   $y = 2x^2$

3. $y = 3x$
   $x = y^2$

4. $y = x$
   $x^2 + y^2 = 4$

5. $x = -5$
   $x^2 + y^2 = 25$

6. $y = 7$
   $x^2 + y^2 = 9$

7. $y = -2x + 2$
   $y^2 = 2x$

8. $x - y + 1 = 0$
   $y^2 = 4x$

9. $y = 2 - x$
   $y = x^2 - 4x + 2$

10. $y = x - 1$
    $y = x^2$

11. $y = 3x^2$
    $y = -3x^2$

12. $y = x^2 + 1$
    $y = -x^2 + 3$

13. $y = 4x$
    $4x^2 + y^2 = 20$

14. $y = -1$
    $4x^2 + y^2 = 1$

15. $4x^2 + 9y^2 = 36$
    $x^2 - 9y^2 = 9$

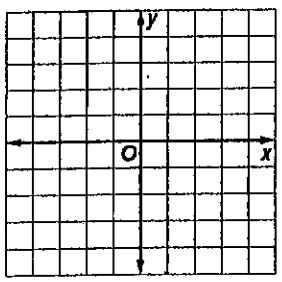
16. $3(y + 2)^2 - 4(x - 3)^2 = 12$
    $y = -2x + 2$

17. $x^2 - 4y^2 = 4$
    $x^2 + y^2 = 4$

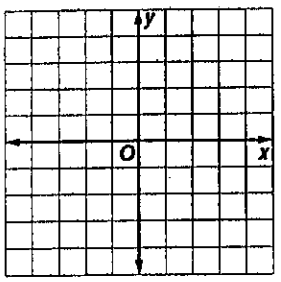
18. $y^2 - 4x^2 = 4$
    $y = 2x$

Solve each system of inequalities by graphing.

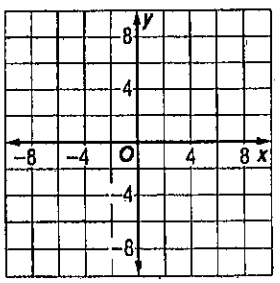
19. $y \leq 3x - 2$
    $x^2 + y^2 < 16$



20. $y \leq x$
    $y \geq -2x^2 + 4$



21. $4y^2 + 9x^2 < 144$
    $x^2 + 8y^2 < 16$



22. **GARDENING** An elliptical garden bed has a path from point A to point B. If the bed can be modeled by the equation $x^2 + 3y^2 = 12$ and the path can be modeled by the line $y = -\frac{1}{3}x$, what are the coordinates of points A and B?